I Claim:

1. A process for measuring the complex impedance of a lead of an active implantable medical device, in particular a pacemaker, a defibrillator and/or a cardiovertor, having a tank capacitor, the tank capacitor having terminals for discharging a stimulation pulse, comprising:

discharging the tank-capacitor to produce a stimulation pulse on the lead;

measuring a voltage variation (V(t)) at the terminals of the tank-capacitor during said discharge; and

determining a lead impedance (Zs) based upon the measured voltage, wherein:

the step of measuring comprises sampling at least three successive values of the voltage at the terminals of the tank capacitor, and

the step of determining comprises determining separately a resistive component (Rs) and a capacitive component (Ch) of the impedance of the lead from said at least three sampled of voltage values.

2. The process of claim 1, wherein said determination is operated by an algebraic calculation.

3. The process of claim 1, wherein the sampling step further comprises sampling a first time, a second time, and a third time, wherein the time of the third time of sampling corresponds to twice the duration between the second time and the first time, and wherein the first time is at the beginning of the stimulation pulse.

4. The process of claim 1, wherein sampling said at least three successive values further comprises sampling said at least three successive values during the same stimulation pulse.

5. The process of claim 1, wherein sampling said at least three successive values further comprises sampling said at least three successive values during two successive stimulation pulses.

6. The process of claim 5, further comprising providing two successive stimulation pulses including a first pulse followed by a second pulse with one pulse having twice the duration of the other pulse, wherein sampling said at least three successive values further comprises sampling a first time at the beginning of said first pulse, a second time at the end of the first pulse and a third time at the end of the second pulse.

7. In an active implantable medical device such as a pacemaker, a defibrillator and/or a cardiovertor, including a tank capacitor, the tank capacitor having terminals for discharging a stimulation pulse, and a circuit for measuring the complex impedance of a lead including :

means for discharging the tank-capacitor on the lead to produce a stimulation pulse;

measuring a voltage variation (V(t)) at the terminals of the tank-capacitor during said discharge; and

means for determining a lead impedance (Zs) based upon the voltage thus measured,

wherein the improvement comprises:

means for sampling at least three successive values of the voltage at the terminals of the tank capacitor; and

means for determining separately a resistive component (Rs) and a capacitive component (Ch) of the impedance of the lead from said at least three sampled values of voltage.

8. The device of claim 7, wherein said determination means comprises an algebraic calculation.

9. The device of claim 7, wherein the sampling means further comprises means for sampling a first time, a second time, and a third time, wherein the time of the third time of sampling corresponds to twice the duration between the second time and the first time, and wherein the first time is at the beginning of the stimulation pulse.

10. The device of claim 7, wherein said sampling means further comprises sampling said at least three successive values during the same stimulation pulse.

11. The device of claim 7, wherein said sampling means further comprises sampling said at least three successive values during at least two successive stimulation pulses.

12. The device of claim 11, further comprising means for providing two successive stimulation pulses including a first pulse followed by a second pulse, with one pulse having twice the duration of the other pulse, wherein said sampling means further comprises means for sampling a first time at the beginning of said first pulse, a second time at the end of the first pulse and a third time at the end of the second pulse.